

REMARKS

This is a response to the Office Action mailed March 31, 2009. A request for one month extension of the response time with fee is attached. An Information Disclosure Statement is included with copies of the listed items. A complete set of the claims in this application is included showing the deleted and added portions is included. Claims 1-38 are shown as canceled and claim 40 is canceled at this time.

The Information Disclosure Statement is submitted to identify references that have been cited in a corresponding patent application pending in the European Patent Office. Comments are added with regard to each reference as to its relationship to the presently claimed invention.

CLAIM REJECTIONS – 35 USC § 102/103

Claims 39-74, where amended, have been amended to avoid any anticipation under §102 or any obviousness under §103 and reconsideration of the above rejection is requested.

The claims have not been drafted in a Jepson format. The claims have an extended preamble to properly establish the structure of the present invention to permit accomplishment of the methods claimed or the apparatus as shown in the drawings. There is no intention to suggest that the structure recited in the preamble of claim 39 is an admission of prior art other than the art of the present inventor in earlier applications, all listed in the specification. Partially, the extended preamble is intended to distinguish the structure of the present application from other forms of filter apparatus as shown in the references listed in the ISD attached. It is important to the HOT GAS method steps that the filter apparatus of the present invention forms a pressure sealable fixed volume filtration chamber that can be controlled in temperature and pressure to permit the use dry hot gas in the process of separating liquids from solids in a slurry without causing possible damage to

1
2 the slurry or the resulting filter cake of slurry solids.

3 The listing by the Examiner of paragraphs on page 4 of the Office Action with
4 numbers from (23) to (31) is not understood by Applicant's attorney; what do the numbers
5 identify? It is important to the present claimed invention that the filter chamber can be
6 controlled and maintained in temperature and pressure. Prior Benesi filter apparatus have
7 illustrated elements that are capable of forming a desirable filtration chamber, but none of
8 the earlier Benesi applications have disclosed the maintaining of controlled temperature
9 and pressure within the chamber when dry hot gas is used to further separate liquids and
10 solids from a slurry. In that regard, the disclosure of the present invention of the ability to use
11 hot gasses that are capable of being controlled in any phase change from gas to liquid by
12 recognizing the temperature or pressure for such a phase change, and then the control of a
13 temperature or pressure within the filtration chamber to assure that the hot gas remains in a
14 desired form for the filtration process being performed.

15 No other filter apparatus known to the present inventors is capable of accomplishing
16 the desired separation as here claimed. Both the method and the apparatus of the present
17 claims are not anticipated by any art cited by the present Examiner or an examiner in the
18 EPO. The EPO cited references do not have a filtration chamber that can be controlled in
19 pressure and temperature and one which can maintain a controlled temperature or
20 pressure. While one of the references cited by the EPO does use heated gas (heated only)
21 as a drying agent, that reference opens and closes its chamber as the filter medium is
22 moved between segments; thus releasing pressure between each move; an action that
23 would cause a phase change.

24 No combination of previous Benesi disclosures produce an obvious combination that
25 can perform the method of the present apparatus in the steps recited. It is Benesi et al alone
26 that have recognized that the control of the Benesi type filter apparatus with a filtration

1 chamber that can remain pressurized and controlled in temperature to permit the use of a
2 hot gas without phase change for slurry separation without possible damage to the slurry or
3 the resulting filter cake. It is respectfully submitted that there is no suggestion of an obvious
4 combination of the prior Benesi applications that would produce the improved method of
5 the present invention. Furthermore, all Benesi or Benesi et al patents are owned by the same
6 entity.

7 Reconsideration of the rejection of the claims of this application under 37 USC 102(b)
8 or 103(a) is respectfully requested. The suggestions listed in the numbered paragraphs in the
9 Office Action are acknowledged, but the invention here solicited is the improved separation
10 of liquids and solids in a slurry by accomplishing that separation in a filtration chamber where
11 temperature and pressure are maintained and controlled to make the use of hot dry gas in
12 more effective separation process.

13 Claim Rejection – 35 USC § 112

14 The Examiner's comment that it is unclear how former steps a, b, d, e and f can
15 constitute "an improvement" in the form that the claim was presented is noted . It is
16 believed that such an objection is now overcome with the form of (CURRENTLY AMENDED)
17 claim 39 in that the steps of paragraphs a) through g) are now steps in a set of METHOD
18 steps that permit the previously recited preamble structures to be operated to perform the
19 improved method of using DRY HOT GAS FLUID passing through the slurry and filter medium
20 to displace a further portion of the slurry liquid from the formed filter cake. While these steps
21 could be performed by other Benesi issued patents, none of those patents disclose the
22 formation of a sealed filtration chamber and pressurizing and temperature controlling that
23 sealed chamber, then passing a first quantity of temperature controlled and pressurizable
24 fluid through the slurry in the filtration chamber, and then passing a dry hot gas fluid through
25 the formed filter cake to displace a further portion of slurry liquid from the filter cake while the
26 filtration chamber is closed and temperature and pressure controlled (to avoid any phase

1 change in the dry hot gas fluid), then proceeding with the opening and discharging of the
2 substantially dry slurry solids filter cake, and repeating the several steps recited. It is
3 submitted that the claim as now presented clearly recites a definite set of steps that the
4 method performs to accomplish a desired result.

5 As to the comment about what Applicant intends with the term "hot", the intent is to
6 include a "hot" temperature for that gas as defined in the specification that will remain
7 "hot" and "dry" (not changed in phase) while within the sealed pressurized filtration
8 chamber while it is performing the desired displacement of a further portion of slurry liquid
9 from a filter cake. "Hot" as used in the claim is in relation to the temperature and pressure
10 controlled conditions within the sealed filtration chamber and within the temperature and
11 pressure ranges as stated within the specification. Even with the vacuum or lowered
12 pressure filtration chamber as described within the specification, the "hot" can be expected
13 to be supplied at the elevated temperatures as recited in claim 53 and at pressures recited
14 in claim 54.

15 It is respectfully submitted that the claims as now submitted are definite and that
16 "hot" is established as within the range of temperatures recited in the specification.
17 Reconsideration of the rejection of the claims under 35 USC § 112 is requested.

18 Claim Rejections – 35 USC § 103

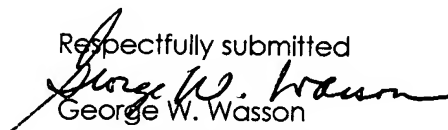
19 The rejection of claims 39-74 on the combined teachings of the present inventors
20 issued patents Benesi (US 5,462,667) and Benesi (US 6,159,359) is noted. It is submitted that,
21 while either or both, of those patents include structures that are similar to the structure
22 described in the present application, neither of those patents suggest the temperature and
23 pressure controlling of the sealed filtration chamber for the purpose of permitting the use of
24 a dry hot gas fluid in a further displacement of slurry liquid in a manner that the dry hot gas
25 fluid remains "dry" during the displacement process. It is the maintaining of the temperature
26 and pressure within the filtration chamber at that step of the process that is effective in

1 accomplishing the production of a substantially dry slurry solids filter cake. While earlier
2 Benesi patent disclosures have illustrated filter apparatus that produces a useful filter cake, it
3 is the use of the presently presented filter apparatus and its operation in the manner defined
4 that permits the formation of a substantially dry slurry solids filter cake in an improved manner
5 and in less time because of the use of dry hot gas fluid as the last stage of the filtration
6 process. The present inventors, who also are inventor or inventors in the previous Benesi
7 patents, are aware of what has been disclosed in earlier patents and were the inventors of
8 the surprising results that could be accomplished with the use of the presently claimed dry
9 hot gas fluid process for producing the substantially dry filter cake from the filter apparatus.
10 A drier filter cake results in eliminating further after filtration drying actions on filter cakes
11 produced with prior art methods.

12 Reconsideration of the rejection of claims 39-74 under 35 USC § 103 is respectfully
13 requested.

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15 If a telephone, FAX or email discussion of this response would be helpful in the further
16 prosecution of this application, the Examiner is invited to contact Applicant's attorney at the
17 phone, FAX or email address listed below.

18 Respectfully submitted

19 
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25 Attachments:

26 Claim Listings 39-74

27 Information Disclosure Statement – with Fee

28 Response Extension Request – with Fee

29 Return Postcard
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